Norton Bay Watershed Assessment and
Water Resources Climate Change Adaption Plan Project
Workplan

I. Project Title and Project Purpose Statement

▪ A title for the project: Norton Bay Watershed Assessment and Water Resources Climate Change Adaption Plan Project Implementation.

• A summary description of the proposed project that should identify the related environmental statute from the list in Section I.C.

The Center for Water Advocacy (CWA) will implement the recently completed Tubutulik River Watershed Assessment (TRWA) and the Norton Bay Water Resources Climate Change Adaption Plan (CCAP) for Alaska's Norton Sound Region. Implementation of the TRWA and CCAP will assist native village communities in the region to adapt to and mitigate the impacts of climate change and mining activity on water resources including coastal erosion, flooding, human health, increased shipping traffic, subsistence resources and protection of human rights and environmental sovereignty.

II. The Environmental and/or Public Health Information about the Affected Community

a. <u>The local environmental and public health issue that the Project Seeks to Address.</u>

While many people still debate the existence of climate change and even those who have accepted it has reality believe that climate change is a phenomenon of the future, Alaska is already feeling the effects of our rapidly changing world. During the fall of 2013, for example, the state continued to experience record high temperatures when Anchorage recorded an all-time high of 51 degrees – two degrees above the previous record of 49 degrees in 1959 and 19 degrees above what the thermometer read on the same date in 2012. In the Interior, on October 28, 2013, Delta Junction recorded 62 degrees, its warmest temperature ever and 19 degrees over the last high recorded in 1962.

The changing weather patterns in Alaska are, already, having substantial impacts on water resources upon which, inturn, impact Native Alaskan village communities in various ways. Increased stream temperatures, for example, combined with other climate change related impacts of high river flows, altered ice flows and stream bank erosion and impacts to water quality and quantity from mining and related development in the Norton Bay Watershed (Watershed), threatens to directly impact fishery and wildlife habitat upon which the Native Villages in the area (Villages) depend for a major portion of their subsistence fishing and hunting. In addition, reduced water flows in the Watershed caused by water diversions from mining and other development activity, which are exacerbated by the effects of climate change, can increase water temperatures and impair fish and wildlife habitat.

In addition, as the result of higher temperatures and extreme weather conditions sea ice is breaking up earlier in the winter impacting the habitat for marine mammals upon which the

Villages depend for subsitence and economic uses. Finally, mining and road development in the watershed exhasterbates climate related issues that the area is already facing.

Currently, the most substantial water resources risk from climate change in the communities is is coastal erosion and temperature increase. With the witnessable rise in ocean levels, increased storm intensity, and continued rising of global temperatures which will likely encourage sea level rise further, these communities can prepare by reducing building sites near bluffs and other coastal zones, anticipate community needs and establish funding sources for movement of homes in danger.

b. The Characteristics of the Affected Community.

The Inupiat Eskimo community has lived and relied on a subsistence economy over many centuries in the vicinity of Norton Bay. The Alaska Native culture present in the Norton Bay watershed, the Inupiat, is one of the last intact, sustainable salmon-based cultures in the world. In contrast, other Pacific Northwest salmon-based cultures are severely threatened due to development, degraded natural resources, and declining salmon resources. Pacific salmon are no longer found in 40% of their historical breeding ranges in the western United States, and where populations remain, they tend to be significantly reduced or dominated by hatchery fish.

Salmon are integral to the entire way of life in the Norton Bay village communities as subsistence food and as the foundation for their language, spirituality, and social structure. The culture has a strong connection to the landscape and its resources. In the Norton Bay area, this connection has been maintained since time immemorial and is, in part, due to and responsible for the continued pristine condition of the region's landscape and biological resources. The respect and importance given salmon and other wildlife, along with the traditional knowledge of the environment, have produced a sustainable subsistence-based economy and way of life which is a key element of indigenous identity; this respect serves a wide range of economic, social, and cultural functions in Inupiate and Yu'pik societies.

c. How the Affected Community may be disproportionately impacted by the environmental and/or public health harm(s) and risk(s).

The Norton Bay watershed is already impacted by the effects of climate change including coastal erosion, flooding, extreme fluctuations in hydro-geomorphology, early spring break-up and disrupted access to traditional fishing and hunting sites. Due to their location, dependency on subsistence resources and economic condition, therefore, the villages are disproportionately impacted by climate change in comparison to the rest of the state. In early November 2013, for example, the Norton Sound area was hit by a series of severe storms causing flooding in the streets of the communities and damage to sewer and drinking water systems.

Further, due to the fact that employment and household are, generally, lower then the rest of the Country on average while poverty levels are considered to be higher, their economic vulnerability in comparison to the rest of the community, the economic welfare of the Village communities is substantially impacted by changing weather patterns, which as with elsewhere, are dependent on the cash economy to pay bills and to buy food, oil and gas and other necessities. Common sources of income include commercial fishing,

trapping, or fish processing, public sector jobs from government grants, such as schools, and dividend payments from Alaska Native corporations.

In addition, the continued pursuit of a centuries old subsistence lifestyle within in the Norton Bay Watershed is dependent on biologically rich fish and wildlife resources found there. The economic structure of the Village, therefore, can be described as "subsistence with a cash overlay" meaning that the major portion of food and other necessities and therefore "income", is from subsistence hunting, fishing and wild plant and berry gathering. As the impacts of climate change on fish, wildlife and plant habitat increases, therefore, then subsistence practices of the Villages will be harmed.

Therefore, because, a higher percentage of their food supply comes from this subsistence lifestyle, the Villages are, disproportionately, impacted by the effects of climate change which is exacerbated by mining and other industrial development activities, which can result in the release of toxic substances and lowered instream flows. Moreover, village communities can experience: higher prices for food and food insecurity; changes in commercial fishing, leading to lost or displaced jobs and unemployment; hunger and malnutrition caused by disruption in food and water supply; increased cost and conflict over food and water; food- and water-borne disease; emergence of new contagious and vector-borne disease; Mental health disorders (e.g., depression, anxiety, Post-Traumatic Stress Disorder, substance abuse, and other conditions) caused by loss of food supply and subsistence related cultural practices; and health care impacts related to increased rates of illness and disease, emergency room use, and related costs borne by employers, health plans, and residents.

d. How The Affected Community Will Benefit From The Results Of The Project.

Implementation, the CCAP and Assessment will, initially, benefit the Inuit people who live in the Native Villages in the Geography. Further, the data, information and strategies from the Plan when combined with the TRWA and other watershed management planning efforts addressing the impacts of mining activity and climate change on the Villages will provide precedent throughout Alaska illustrating the ability of tribal governments to effectively, manage natural resources, encouraging the federal government to recognize it's trust responsibility to the Villages and address water temperature change and protect the environment consistent with the cultural and traditional needs of such tribes and villages. The establishment of tribal environmental sovereignty and a government-to-government relationship with these federal agencies could redefine the trust relationship between native tribes and the federal government throughout the state in a manner that will, not only, strengthen tribal governments and their ability to protect subsistence resources and the health and welfare of their memberships, but will improve the integrity of tribal governing bodies and their economic, social political and jurisdictional base.

III. CWA's Historical Connection to the Affected Community

a. The history of the CWA's Involvement with the Affected Community, including the length of our Involvement and How We Became Involved.

The Center for Water Advocacy (CWA) focuses on the Tribal vision for management and oversight of the Norton Bay Watershed in Alaska's Seward Peninsula and protecting water resources of the Watershed for the benefit of it's members and the public. The CWA conducts research, education and advocacy related to it's efforts to protect and restore tribal interest in water quantity, water quality, subsistence uses and water rights for the health of the watershed ecosystem, preservation of cultural identity and the of benefit tribal members. Currently, the CWA represents the Elim, Koyuk, Unalakleet & Shaktoolik Native Village Communities.

The Watershed Council is currently working with these and other Native Alaskan Tribal Governments drafting a Watershed Assessment of the Tubutulik River watershed and working to promote environmental justice policies and practices related to management of water and subsistence resources. The CWA and it's membership retain a strong commitment to resolving the human health and subsistence problems represented by industrial development as illustrated by the Native Village of Elim IRA Council's objection to uranium exploration activities in the Tubutulik River Watershed and the NVE's and CWA's objection to other development activity which threatens subsistence uses in the Norton Bay area.

b. How the CWA has worked with the affected community's residents and/or organizations to address local environmental and public health issues.

In order to mitigate and assist the Villages to adapt to climate change and mining development in the Norton Bay Watershed, CWA has worked with it's partners to develop the Tubutulik River Watershed Assessment and Norton Bay Climate Change Adaption Plan. These documents were developed using both Traditional Environmental Knowledge (TEK) and contemporary science from community leaders, scientists and environmental educators throughout Alaska and apply innovative strategies to analyze climate change, food security, sustainable economies, holistic wellness and energy issues related to water quality and quantity in the Watershed including the restoration of traditional knowledge as a primary strategy for creation of these documents. For more information or to see the CCAP go to: www.laochconsulting.com.

In addition, CWA in partnership with the Watershed Council, the City of Elim, Elim and Norton Bay IRA Councils and Laoch Consulting have held community gatherings in Elim and Koyuk to provide information and gather Traditional Environmental Knowledge (TEK) and other in-put from the community and collect data to draft the Watershed Assessment, share strategies, success stories and collaborate emphasizing the knowledge and beliefs of the local native village communities. Finally, since 2012 we held meetings with local tribal, state, federal and other entities and held community meetings in the Native Villages of Elim and Koyuk in establishing the Watershed Council and coordinated monthly watershed council meetings.

c. How the affected community residents are part of your decision-making process.

The local community initially participated in the decision making process by establishing the Norton Bay Watershed Council and by participating in public gatherings and surveys designed to gather TEK including fishing, hunting and gathering activities and observations and concerns about the watershed, will be participating in developing the Watershed Assessment. To this end, CWA, the City of Elim, Elim and Koyuk IRA Councils in partnership with Laoch

Consulting and CWA have held several community gatherings to discuss the watershed council, share strategies, success stories and collaborate emphasizing the knowledge and beliefs of the local native village residents.

d. How our efforts have increased the community's capacity to address local environmental and public health issues.

The CCAP's goals include::

Goal 1: Obtain funding for emergency preparedness and/or relocation of native villages in the Norton Bay Watershed most critically impacted by coastal erosion and flooding.
Goal 2*:* Mitigate and/or adapt to impact of rising water temperature/stream bank erosion on aquatic habitat.
Goal 3: Increase safe access to subsistence resources watershed.
Goal 4*:* Protect subsistence resources in 100% of Watershed.
Goal 5*:* Increase education and outreach opportunities for native villagers to learn about climate change impacts with a focus on local issues and adaptation strategies.
Goal 6: Set precedent in Norton Sound Region for data collection, watershed assessment and climate change adaption planning.
Goal 7: Improve economic conditions in Norton Bay area native village communities.

The completion of the CCAP and Assessment, therefore, will lead to mitigation of the risks of risks from climate change to water source and subsistence. A published climate adaptation plan, watershed assessments, management plans, and implementation work plans that incorporate collected water quality data and TEK; Effective communications materials and modified policy language address multi-jurisdictional challenges; Documented outcomes, knowledge, experiences, impacts, and best practices via reports, webinars, web, social media and presentations circulated through indigenous networks in Mexico, U.S., and Canada, the *Climate Solutions University* network, the public, partners, and agencies; Workshops held by Watershed Councils to exchange project outcomes among local Native Villages; thousands of acres of potentially restored and/or protected watersheds within tribal, borough, city and other jurisdictions affecting subsistence resources; New policies, increased federal oversight and/or steps taken for environmental justice and climate adaptation. Further, combining the research, planning and application of Indigenous knowledge with Tribal sovereign status, the federal trust relationship, and state and federal environmental justice policies will ensure that the Plan not only assists the tribal and other local communities within the watershed to mitigate and adapt to climate change, but those of the general public in a manner that often exceeds those of even the most potent federal and state environmental laws.

Moreover, based on the fact that no watershed scale climate change adaption/mitigation planning is, currently, under way for the Watershed and no effort has been made, to gather existing TEK or information about the impacts of climate change on traditional subsistence based economies, the CCAP will set a precedent for incorporating such knowledge and data into a comprehensive Plan that will apply tribal expertise, knowledge and vision for mitigation and adaption.

f. How CWA Maintains And Sustains An Ongoing Relationship With The Affected Community's Residents And/Or Organizations.

The CWA is a non-profit conservation organization which focuses on Human Rights and Water issues and protecting water resources throughout Alaska for the benefit of the Watershed Council's members and the public. CWA conducts research, education and advocacy related to it's efforts to protect and restore tribal interest in water quantity, water quality, subsistence uses and water rights for the health of the watershed ecosystem, preservation of cultural identity and the of benefit tribal members.

IV. Project Description

a. Concise description of the activities the Project will undertake during the year to examine and address the environmental and public health issue(s), e.g., training education/outreach programs, capacity-building efforts, research, etc.

1. Local environmental/public health results the project seeks to achieve activities

The Project will achieve the following goals: 1) Obtain funding for emergency preparedness and/or relocation of native villages in the Norton Bay Watershed most critically impacted by coastal erosion and flooding; 2) Obtain stream temperature data, stream bank erosion, and other data to complement flow & water quality data currently being gathered for rivers in watershed; 3) Increase access to subsistence resources in 100% of Watershed; 4) Protect subsistence resources in the Watershed; 5) Increase education and outreach opportunities for native villagers to learn about climate change impacts with a focus on local issues and adaptation strategies; 6) Set precedent in Norton Sound Region for data collection, watershed assessment and climate change adaption planning; and 7) Improve economic conditions of Native Villages.

2. How the project will achieve these results

In order to achieve goal 1(Obtain funding for emergency preparedness and/or relocation of native villages in the Norton Bay Watershed most critically impacted by coastal erosion and flooding; the project will meet the following objectives) the Project will: 1) Assess extent of threat of coastal erosion to Villages; 2) Determine which funding entities are most appropriate; 3) Identify EPA, FEMA and other funding sources and apply for funding; 4) Identify other funding sources additional to FEMA; 5) clarify which entities apply for specific grants. Certain organizations must apply for certain grants – i.e. tribal government; and 6) Obtain buy-in from Tribes in time to apply for grants. Communication gap.

In Order to achieve goal 2(Obtain stream temperature data, stream bank erosion, and other data to complement flow & water quality data currently being gathered for rivers in watershed) the Project will meet the following objectives 1) Establish temperature monitoring stations in key locations on the Tubutulik and other rivers; 2) Obtain appropriate funding; 3) Obtain proper training to conduct temperature modeling - Locate appropriate temperature and water quality courses or trainers; 4) Conduct modeling: a) Locate and Hire staffing; b) Obtain Equipment, tools, transportation, etc.; c) Work with The Alaska Department of Fish and Game to implement the agency's Climate Change Strategy including the following recommendations: a) conduct a vulnerability assessment that considers the ecological, economic,

and sociopolitical ramifications, b) work with state, federal, tribal and NGO entities to incorporate existing data and TEK into the Plan and into management plans to adaptively manage fish and wildlife; c) identify and address statutory changes needed at federal, state and local levels; d) identify or develop regional partnerships to address goals and strategies; e) develop effective communication systems and outreach efforts for addressing common climate change goals and strategies; and 5) Work with the University of Anchorage Alaska (UAA) Scenarios Network for Alaska and Arctic Planning (SNAP) program, the Alaska Climate Research Center (ACRC), and Alaska Climate Science Center (ACSC) and the University of Alaska Fairbanks Alaska State Climate Center (ASCC) to develop climate change scenarios, maps, background information and research.

In order to achieve goal 3 (Identify EPA, FEMA and other funding sources and apply for funding) the Project will meet the following objectives: 1) Identify sites where access is limited or potentially limited due to ice, weather and related conditions including: a) Locate proper funding; b) Apply Traditional Environment Knowledge to gain information on nature and location of limited subsistence uses and c) Develop maps and obtain equipment needed to assess issues; 2) Obtain emergency relief and food aid for villages who are cut off from subsistence resources including: a) Obtain proper funding; b) Encourage state and federal agencies to act promptly to establish states of emergency when necessary and to promptly act on requests for emergency relief; 3) Conduct public outreach to ensure understanding of extent of problem and need for emergency relief.

In order to achieve goal 4 (Protect subsistence resources in the Watershed) the Project will achieve the following objectives: 1) Identify sites where risk factors threaten fish and wildlife habitat including: a) Obtain proper funding; b) Apply Traditional Environment Knowledge to identify nature and location of threatened habitat; c) Develop maps and obtain equipment, etc, needed to assess issues; d) Encourage State and federal government agencies to emphasize protection and proper management of subsistence resources over resource extraction; e) Work with the signatories to this Plan, other native villages and state governmental agencies to apply the AWRVI and other credible resources to determine the state of well being of native communities who rely on available water and subsistence resources; f) List all ocean waters around the state as Water Quality-Limited Segments ("303 (d) List") under section 303 (d) of the CWA due to impairment for pH due to absorption of anthropogenic carbon dioxide pollution. This designation should include action to be taken by the State agencies which represents the Environmental Protection Agency as a "delegated" State, for purposes of enforcing and upholding provisions of the CWA and other Federal environmental legislation; 2) Apply federal, state, tribal and international laws, policies and to protection of habitat including: a) Obtain funding for research, monitoring, comments, appeals; b) Encourage federal agencies in Alaska including BLM, BOR, BIA and USFWS to consult and partner with Native Villages in Alaska to monitor and apply for reservation of instream flows in Alaska to protect key subsistence watersheds; c) Support preservation of biodiversity and Indigenous rights in subsistence use areas; d) be consistent with Section 1B of President Obama's Directive of June 12, 2009; e) call on the National Oceanic and Atmospheric Administration (NOAA fisheries) and other federal fisheries agencies to establish meaningful tribal consultation as an integral component of their implementation of the CZMA and become wholly compliant with the consultation process; d)

Require better consultation with tribal governmental entities in the protection of ocean and coastal resources including water rights and quality management actions, development of watershed management plans and establishment of watershed management councils; e) address compliance with watershed conservation standards including section 313 of the Clean Water Act which requires federal agencies to comply with water quality standards when they are "engaged in any activity resulting, or which may result, in the discharge or runoff of pollutants" 33 U.S.C. § 1323(a); f) Assess and combine information gathered to draft a White Paper addressing the nature and extent of the TRIBE's current water rights in the waters that flow into and through their traditional territories; g) Draft a Water Code that will provide for issuance and enforcement of water right permitting and the protection of instream flow water rights in the waters that flow into and through their traditional territories" including the Matanuska River; h) Determine and document in writing how to implement a Tribal reservation of federal instream flows, as well as state instream flow, in the Tubutulik River and the impact of such reservation on any existing water right holders and the public interest; develop an assessment to determine the amount of water necessary for instream flows and Tribal needs and insure that public notice of the water right is provided; h) Bring climate change and other litigation when necessary to protect subsistence uses and health and welfare of native communities; and i) The Bureau of Land Management and the Alaska Department of Natural Resources, as the agencies which over see the permiting for mineral exploration and for new roads in the Watershed, can mitigate the impacts of such activities on subsistence resources. In addition, the CWA and government entities can utilize traditional knowledge as a primary adaptation and mitigation strategy to address climate change, food security, economics, holistic wellness and energy issues related to water quality and quantity in the Watershed.

In order to achieve goal 5 (Increase education and outreach opportunities for native villagers to learn about climate change impacts with a focus on local issues and adaptation strategies) the Project will obtain the following objectives: 1: Discuss climate change mitigation and adaption with each Native Village Tribal Council in Watershed including obtain funding and staff resources and Buy-in from tribal councils and communities; 2: Present power point presentation to Tribal consortiums and other watershed councils located in Norton Sound Region including, obtain Funding, staff and other resources and buy-in from tribal councils and communities; 3: Present power point presentation to community meetings and gatherings and gather traditional environmental knowledge during these events including obtain Funding, staff and other resources and buy-in from tribal councils and communities; 4: Publish op-eds, LtEs and newsletters and obtain funding, staff and other resources

3. How CWA will increase the communities capacity to address local environmental and public health issues.

To achieve goal 6(Set precedent in Norton Sound Region for data collection, watershed assessment and climate change adaption planning), the project will achieve the following objectives: 1) Incorporate water flow, quality and temperature data and TEK into Climate Change, Watershed Assessment, Watershed management and other plans including: a) obtain funding, staff and other resources; b) obtain buy-in from federal, state and local government and c) partnership with government entities; 2) Distribute water flow, quality and temperature data, TEK and Climate Change, Watershed Assessment, Watershed management and other plans

throughout Norton Sound region and throughout the state including: 1) obtain funding, staff and other resources; 2) obtain buy-in from federal, state and local governments and c) partner with government entities; 3) Apply public outreach and education to promote data, TEK and plans listed above and implementation, thereof throughout the watershed and the region including obtain funding, staff and other resources; 4) Apply water flow, quality and temperature data and TEK data and Climate Change, Watershed Assessment, Watershed management and other plans to address risk factors and mitigate climate change impacts; 5) Develop and strengthen environmental sovereignty of the Native Village tribal governments including a) Implement CCAP; b) Develop additional Watershed Assessments; c) Develop and adopt watershed management plans, tribal ordinances, codes and resolutions addressing the management and protection of subsistence resources; d) Consult and partner with Alaskan Villages to analyze federal and state laws that can be applied to protect tribal water rights and subsistence uses, using the Villages to identify where strengths and weaknesses exist in water management and recommend how the state instream water reservation process can be applied to protect such interests and uses; e) Encourage federal agencies to meet with the other Native Villages to that they partner with CWA and the Elim Village in this effort. Being able to see the 'big picture' of the water that communities rely on is important for the Native Villages to making good decisions and protecting subsistence uses from the negative impacts of uranium mining activity; f) Participate in tribal, regional and state water plans and urban development plans to balance growth with renewable supplies; g) Require federal agencies in Alaska including BLM, BOR, BIA and USFWS to consult and partner with Native Villages in Alaska to monitor and apply for reservation of instream flows in Alaska to protect key subsistence watersheds; and h) Bring climate change and other litigation when necessary to protect subsistence uses and health and welfare of native communities.

In addition, because the native communities in the Norton Bay area are at a higher risk from the impacts of development in the Watershed, they are at the same time the ones with the most knowledge as to what these impacts are and how to address them. The use of such TEK, therefore, can be applied in relation to the Project to determine decline in fish population and changes in human and fish and wildlife health, aquatic and marine habitat and the environment.

Similarly, because native communities in Alaska and elsewhere in the United States have struggled against violations of the internationally recognized human rights, the experience of such communities in addressing such violations on a scientific, legal and policy level, is in valuable. The research, planning and application of TEK combined with Tribal sovereign status, the federal trust relationship, and state and federal environmental justice policies, therefore, provides native villages in Alaska with the means to not only protect their own water related interests, but those of the general public in a manner that often exceeds those of the most potent environmental laws.

To achieve goal 7 (Improve economic conditions of Native Villages) the Project will achieve the following objectives: 1) "Green" the federal, state and local government budgets and accounting systems so that financial planning for development can be put on a sustainable basis. Take into account all costs, including environmental costs including: a) define property rights for natural resources; b) catalogue resource-sharing arrangements in the North; c) report the results of the Northern Form's capital formation study to the Arctic Council; d) catalogue best practices

in sustainable development and community initiatives that balance economic development with environmental considerations; e) set up an Arctic Council Web site of circumpolar development initiatives; f) facilitate circumpolar information exchanges such as the University of the Arctic; g) insure international debt reduction programs to reduce the pressure on governments and native communities to develop water resources related to energy or other development or issue large lease holdings that will result in over allocation of water or impacts to water quality; h) limit artic shipping and construction of deep water ports in the Norton Sound area when it would impact subsistence uses.

4. How the Project is related to environmental statutes

The Project will include the following activities that are authorized by the following federal environmental statutes:

Clean Water Act, Section 104(b) (3): conduct and promote the coordination of research, investigations, experiments, training, demonstration projects, surveys, and studies relating to the causes, effects, extent, prevention, reduction, and elimination of water pollution.

Safe Drinking Water Act, Section 1442(c)(3)(C): develop and expand the capability to carry out a program (that may combine training, education, and employment) for occupations relating to the public health aspects of providing safe drinking water.

5. A concise description of how the organization and its partner(s) will work together during the year to address the local issue(s).

1. The role of our partner(s) in addressing the local environmental/public health issues.

The CWA will partner with other Native Village Communities in the Norton Bay area to identify concerns with current and future disproportionate impacts to subsistence resources and gather traditional and cultural knowledge from climate change and mining development. In addition, we will partner with private entities, tribal consortiums and governmental entities in Norton Sound region who will provide technical advice and assist with research and data collection. Each of our partners has been selected to effectively assess the impact of development and climate change on the Watershed and how to avoid disproportionate impacts on the native community.

2. *The nature of the organization(s), and what resources they bring to the partnership*

a) Laoch Consulting is a private consulting firm which strives to promote the long-term sustainability of water resources in the western United States for the benefit of fish and wildlife populations, habitat, aesthetics, recreation, and traditional and cultural activities, using the principles of democracy, environmental justice, and sound ecology as it's guide.

b) The Norton Bay Inter-Tribal Watershed Council - The NBITWC is a non-profit conservation organization which focuses on the Tribal vision for management and oversight of the Norton Bay Watershed and protecting water resources of the Norton Bay Watershed located on the Seward Peninsula, Alaska for the benefit of the Watershed Council's members and the public. NBITWC conducts research, education and advocacy related to it's efforts to protect and restore tribal interest in water quantity, water quality, subsistence uses and water rights for the health of the watershed ecosystem, preservation of cultural identity and the of benefit tribal members. Currently, the NBITWC represents the following Native Village Communities: Elim, Koyuk, Unalakleet & Shaktoolik.

b) The International Arctic Research Center & Institute of Northern Engineering in Fairbanks (IARC) at the University of Alaska Fairbanks (UAF) was established in 1999 as a cooperative research institute supported by both the U.S. and Japanese governments.

c) Kawerak Inc. based in Nome, Kawerak contracts with the state and federal government to provide services to residents of the Bering Strait Region, 75% of whom are Eskimo, Aleut or American Indian, descent. With programs ranging from education to housing, and natural resource management to economic development, Kawerak seeks to improve the Region's social, economic, educational, cultural and political conditions.

d) The Norton Sound Native Health Corporation, headquartered in Nome, Alaska, was founded in 1970 to serve the health care needs of the Inupiat, Siberian Yup'ik, and Yup'ik people of the Bering Strait region of northwest Alaska.

e) The Natural Resources Conservation Service, Nome Field Office assists owners of America's private land with conserving their soil, water, and other natural resources. Local, state and federal agencies and policymakers also rely on NRCS' expertise. NRCS delivers technical assistance based on sound science and suited to a customer's specific needs.

f) The Native Villages of Elim, Koyuk, Unalakleet and Shaktoolik IRA Councils are federally recognized tribal governments consisting of at the IRA Council as the governing body and a small administrative, grant writing and environmental program staff.

g) The Nome Eskimo Community has represented the political, social, and cultural interests of Native peoples in the community of Nome and the Bering Straits region for nearly 70 years. While NEC's mission and scope has evolved over the decades, it's commitment to serving their members and community has remained steadfast.

h) Climate Solutions University has been created to bring climate resilience to communities through forest and water resource strategies. It is designed to guide selected communities through a process of training, team engagement, assessment and planning related to forest water climate and economic risks and opportunities.

i) The Mission of the Western Alaska Land Conservation Cooperative is to promote coordination, dissemination, and development of applied science to inform landscape level

conservation, including terrestrial-marine linkages, in the face of landscape scale stressors, focusing on climate change. In spring 2011, the Western Alaska LCC, DOI's Alaska Climate Science Center, and BLM gathered 150 land and resource managers, field specialists, researchers, and local knowledge experts to identify climate change-related priority science needs for resource management in western Alaska. "*Changes in Hydrologic Processes and Freshwater Systems"* (e.g., shifts in thermal regimes, precipitation seasonality and form and magnitude, etc.) was one of the three most important changes expected in regional geophysical processes with anticipated impacts on important resources throughout the LCC.

c. *The vested interest of the Partners in the Project, Commitments Made and Activities they will be Responsible for.*

Our Partner's commitment to resolving the human health, economic and subsistence problems are represented by the Norton Bay Inter-Tribal Watershed Council**'s**, Laoch Consulting, CWA and other partners, completion of a plan and watershed assessment to assist Native Alaskan Villages to adapt to changing weather patterns in Alaska. In order to mitigate and assist the Villages to adapt to these changes**,** the Norton Bay Climate Change Adaption Plan (CCAP) was developed using Traditional Knowledge and contemporary science from community leaders, scientists, environmental educators and other representatives of the Council.

Our Partners will assist CWA in implementation of the CCAP and TRWA. We will also work with the Western Alaska Landscape Conservation Cooperative (WALCC) to implement the recommendations in the November 2012, Alaska Stream and Lake Temperature Monitoring Workshop Report. The CWA will be the lead implementing agency. To this end, CWA staff in coordination with the Watershed Council and advisory council will hold meetings on plan implementation with the Villages of Elim, Golovin, etc. represented on the watershed council and other watershed councils and native villages in the area to obtain feedback on implementation. The staff and core team will then work collectively with stakeholders on the actions listed above to meet the goals and objectives of the plan.

To this end, the Partners vested interest is illustrated by preserving the environmental sovereignty of the Watershed Council's member tribes through implementation of the CCAP.

Specifically, our partners will:

1. Laoch Consulting will conduct research and collects water and TEK data related to and the Assessment and CCAP and coordinate other partners in developing the Assessment and CCAP.

2. The International Arctic Research Center & Institute of Northern Engineering in Fairbanks (IARC) will store water quality data collected from the monitoring efforts.

3. Kawerak Inc., is conducting a study on "Salmon, Subsistence and Identity in a Norton Sound Community" which addresses the importance of subsistence fishing and salmon to the Elim Community. We will be applying the study to explore how salmon

habitat and subsistence uses might be impacted by mining and other development in the Watershed.

4. The Native Villages of Elim, Koyuk, Unalakleet and Shaktoolik IRA Councils will work with the CWA to implement the Assessment and CCAP and to address the impacts of uranium mining activity on human health and subsistence resources in the Watershed.

5. Norton Sound Native Health Corporation. NSNHC will establish the Norton Sound Native Watershed Alliance which will serve as a resources for CWA in developing the Watershed Assessment and CCAP and provide technical assistance for water quality and quantity monitoring.

6. Natural Resources Conservation Service, Nome Field Office. NRCS will assist with developing the watershed assessment and in forming local watershed working groups that will promote management and protection of the watershed by tribal entities.

7. The Model Forest Policy Project will assist the CWA in environmental education regarding Climate change and will work with the to use the watershed assessment, TEK, water monitoring data and other resources to develop a Climate Change Adaption Plan for the Norton Bay Watershed. The result will be community specific plans and action steps that protect natural resources, safeguard quality of life, and increase climate resilience for each community.

8. The Nome Eskimo Community. NEC will assist in gathering data and TEK knowledge related to fish and wildlife habitat and in drafting the Watershed Assessment and CCAP in relation to such data and information.

b. *How CWA will maintain and sustain the partnerships.*

The CWA will sustain the partnership by continuing to working with the partners to implement the Watershed Assessment and CCAP that will apply innovative strategies to analyze climate change, food security, sustainable economies, holistic wellness and energy issues related to water quality and quantity in the Watershed including the restoration of traditional knowledge as a primary strategy for creation of the Assessment and CCAP.

Also, the City of Elim, Elim and Norton Bay IRA Councils and in partnership with Laoch Consulting and CWA have held several community gatherings to discuss the watershed council, share strategies, success stories and collaborate emphasizing the knowledge and beliefs of the local native village communities. Further, the Project will schedule gatherings to share strategies, success stories and collaboration emphasizing, the results of the Assessment and CCAP and request feed back from the community as to how to apply the watershed assessment including establishing the watershed council, drafting ordinances and the watershed management plan, and asserting water rights. The longevity of the partnership will be assured by applying the Assessment and CCAP and established relationships with stakeholders to produce a Watershed

Management plan that will mitigate the risk of potential contaminant sources within water protection areas and/or to decrease the vulnerability of the water source and subsistence uses including water quality data used in drafting Assessment and CCAP and to initiate drafting of Management Plan.

V. CWA's Organizational Capacity and Programmatic Capacity

a. The organizational and administrative systems (e.g. accounting programs) the organization has in place the will be used to appropriately manage, expend, and account for Federal Funds.

The CWA has delegated the authority to Director to act as the representative of the organization on all day-to-day financial related matters and to manage, expend and account for Federal Funds including accounting system is management

b. *How the applicant has successfully managed these projects in the past.*

In partnership with the MFPP, CWA participated in the CSU modules, conference calls and other CSU program projects, conducted the research and drafted the CCAP and watershed assessment. The Watershed Assessment is the first such assessment conducted in the Norton Sound Region and the Plan is the first comprehensive climate change adaption plan in the state of Alaska.

c. *How the applicant plans to effectively manage and successfully complete this proposed project.*

CWA will continue to apply it's expertise along with that of the Watershed Council, Laoch Consulting, Advisory Council and Partners to effectively manage and complete the proposed project. Also, the Council will have the assistance of the Climate Solutions University in implementing the Watershed Assessment and CCAP whom it will be partnering with to develop it's staff and other programatic resources. Finally, with sufficient funding, CWA will further develop it's staff and other progromatic resources so that it can more effectively manage this and other future Projects.

d. *If the applicant has been a recipient of an EPA and/or other Federal grant/cooperative agreement in the last fine years, please indicate paste perforamance in meeting reporting requirements (e.g., progress reports, financial status).*

The Applicant has not received any EPA and/or other Federal grants/cooperative agreements to date.

VI. Qualifications of the Project Manager (PI/PM)

a. *PM is qualified to undertake the project*

Hal Shepherd will operate as the Project Manager on behalf of CWA. Hal was the founder and has been the Director of CWA since 2003. Beginning in 1990, Hal has worked as a Policy Analyst, Attorney, Coordinator and Consultant for multiple Tribal Governments throughout the Northwestern United States and Alaska. Hal earned a J.D. from the University of

Oregon Law School in 1989 and a B.S. in Range Management in 1984 from Colorado State University.

b. How the PM has ties to the community and/or organization

In 2007, the PM participated in public meetings held by the Norton Bay Native Village Council featuring experts who discussed the scientific, social and legal aspects of potential uranium development with the community and assisted in drafting a resolution adopted by the Native Village of Elim, City of Elim and the Aniguiin School prohibiting uranium mining on its lands. Due, in part, to Mr. Shepherds advocacy assistance and his assistance in putting together a demonstrations held by the Elim Village and other native communities, in 2007, the Companies canceled the planned uranium exploration activities. The PM also devoted an average of 20 hours per week during 2013 to participating in MFPP modules, webinars, conference calls and researching and writing the CCAP and Assessment the vast majority of which was unpaid.

c. Past activities that the PM has worked on with the Community

The PM assisted the Native Villages in establishing government-to-government "consultation" meetings between BLM, the Native Village of Elim, the Environmental Protection Agency (EPA) and DNR, during 2008 to inform the Village fully as to planned exploration activity regarding uranium mining in the Norton Sound area. Also, the PM has assisted the NVE in developing a Water Program and founded the CWA who are collecting water quality data for, is currently applying for instream flow water rights on and is developing the Watershed Assessment and CCAP.

The PM also devoted an average of 20 hours per week during 2013 to participating in MFPP modules, webinars, conference calls and researching and writing the CCAP and Assessment the vast majority of which was unpaid.

VII. Past Performance in Reporting on Outputs and Outcomes (approximately 1/2 page): *A list of any Federal or non-Federal grants or cooperative agreements (not Federal contracts) of similar size, scope, and relevance to the proposed project that you worked on within the past three (3) years (no more than five (5) agreements, ad preferably EPA agreements).*

The Applicant has not received any EPA and/or other Federal grants/cooperative agreements to date and does not have prior experience in reporting outputs and outcomes.

VIII. Quality Assurance Project Plan (QAPP) Information (1 to 2 sentences). Please describe the following:

Indicate whether you believe that your project will involve the use of existing environmental data or the collection of new data.

Using the state and federal Water Quality Program management Plan Guidance, the CWA developed a Quality Assurance Protection Plan (QAPP) for the Project.